

REMARKS

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over, Ashihara et al., U.S. Patent No. 6,277,912 (hereinafter: "Ashihara"). The position of the Office is apparently that Example No. 6 of Ashihara (Table 1, col. 15-16) shows that the scope of invention of Ashihara encompasses dispersions without using a surfactant.¹

Applicants submit that the composition defined in claims 1 to 5 of the present application is clearly different from the product of Example 6 of Ashihara. The acid-modified chlorinated polyolefin in Example 6 of Ashihara is obtained by graft-polymerizing methacrylic acid (MACA) and maleic anhydride (MAH) to a propylene-butene copolymer (PB) (Graft Polymerization 1), chlorinating the graft polymer to form an acid-modified chlorinated polyolefin, and further graft-polymerizing the acid-modified chlorinated polyolefin with maleic anhydride (MAH) and 2-ethylhexyl methacrylate (MAcEH) (Graft Polymerization 2). Since methacrylic acid (MACA) and 2-

¹On the other hand, the Office, in the paragraph bridging pages 4 and 5 of the action, states that "[a]lthough the process of Ashihara et al. requires the use of an emulsifier ..." This statement is inconsistent with the statement that Ex. No. 6 of Ashihara does not use a surfactant.

ethylhexyl methacrylate (MAcEH) are polar monomers, the acid-modified chlorinated polyolefin obtained in Example 6 is highly polar and, therefore, can give an aqueous resin composition without using a surfactant (Ashihara, Col. 5, line 46, to Col. 6 line 12; and Col. 8, lines 6-24).

As described above, the acid-modified chlorinated polyolefin used in the aqueous resin composition shown in Table 1, Example No. 6, is clearly different in structure from the acid-modified chlorinated polyolefin recited in Claim 1 of the present application.

Furthermore, in Example 6 of Ashihara, water and a toluene solution of the acid modified chlorinated polyolefin are stirred in an emulsifier at 20,000 rpm for 5 minutes to obtain a pre-emulsion. The composition of Claim 1 of the present application is different from the composition of Example 6 of Ashihara in that the preparation of the latter composition requires forced emulsification to obtain an emulsion.

Removal of the 35 U.S.C. 102 and 103 rejections of claims 1 to 5 is believed to be in order and is respectfully requested.

Claims 6-11 are rejected under 35 U.S.C. 102(e) or, in the alternative, under 35 U.S.C. 103(a) as obvious, over Ashihara. However, it is apparent from the explanation of the rejection that

the 35 U.S.C. § 103(a) rejection is based on Ashihara in view of Verardi et al., U.S. Patent No. 5,863,646 (hereinafter: "Verardi"), as in the first action.

The Office acknowledges in the Action that the process step sequences of Ashihara and of the process recited in claims 6-11 of the present invention are different. For this reason the 35 U.S.C. § 102 rejection of claims 6-11 for anticipation is improper on its face and should be removed.

Regarding the 35 U.S.C. 103(a) rejection of claims 6 to 11, although the Office acknowledges that the process step sequences of Ashihara and of the process recited in claims 6-11 of the present invention are different, i.e., Ashihara neutralizes the dispersion after water is added whereas in the process recited in claims 6-11 the acid-modified chlorinated polyolefin is neutralized prior to the addition of water as a dispersion medium, the Office states that "since applicant has not demonstrated the criticality of the process sequence, the selection of any order of performing process step is *prima facie* obvious in the absence of new or unexpected results" (page 6, third paragraph, of the Action).

Submitted herewith to rebut the position of the Office is a Declaration which shows the criticality of the process sequence recited in claims 6-11. Comparative Experiments 1 and 2 in the

Declaration show that when water is added to a solution of an acid-modified chlorinated polyolefin in an ethereal solvent before neutralization, it is impossible to obtain a dispersion (aqueous resin dispersion composition).

In contrast, a dispersion (aqueous resin dispersion composition) can be obtained when water is added to a neutralized solution of an acid-modified chlorinated polyolefin in an ethereal solvent, as is shown in Examples 1 and 2 in the specification of the present application.

The Office also alleges in the 35 U.S.C. § 103(a) rejection of claims 6-11 that the obviousness of the use of an ethereal solvent in Ashihara is supported by the teachings of Verardi. Specifically, Verardi is cited as teaching an interchangeability between an aromatic solvent and an ethereal solvent "as functionally equivalent organic solvent in a substantially identical aqueous, modified chlorinated polyolefin-based resin dispersion composition" (page 7, lines 8-10, of the Action).

Applicants submit that the Office has failed to properly show that Verardi teaches that an aromatic solvent and an ethereal solvent are functionally equivalent in a process for preparing an aqueous resin dispersion composition as disclosed in Ashihara. The description of Verardi cited by the Office, i.e., Col. 6, lines 42-

58, describes only that both aromatic solvents and ethereal solvents can be used as a solvent for a solvent-based coating composition. Verardi does not disclose an equivalence of aromatic solvents and an ethereal solvents in a process for preparing an aqueous-based composition as disclosed in Ashihara.

Furthermore, Comparative Experiment 3 in the Declaration shows that the use of toluene as a solvent makes it impossible to obtain a dispersion (aqueous resin dispersion composition) even when water is added after neutralization.

Removal of the 35 U.S.C. 103 rejection of claims 6 to 11 is also believed to be in order and is respectfully requested.

The foregoing is believed to be a complete and proper response to the Office Action dated December 21, 2005, and is believed to place this application in condition for allowance. If, however, minor issues remain that can be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

PATENT APPLN. NO. 10/516,621
RESPONSE UNDER 37 C.F.R. § 1.116

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In the event any additional fees are required, please also
charge our Deposit Account No. 111833.

Respectfully submitted,

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Attachments: Declaration (132)